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ABSTRACT

A study involving two groups of graduate teacher-education students was undertaken to compare the effectiveness of traditional post-baccalaureate teacher training with that of a funded, innovative, selective program for liberal arts graduates known as the Lyndhurst Program. The performance of these two groups of subjects on the Pre-Professional Skills Test (PPST) and the National Teachers Examination (NTE) was compared. The program was implemented at the University of Tennessee at Knoxville and Memphis State University. Upon being selected for the Lyndhurst Program, fellows participate in an intensive summer academic program followed by a year-long internship in a public school. Additional course work and seminars taken during the year complete the program. A teacher in the intern's school and a faculty member from the college of education and a faculty member from the student's major content area act as mentors. In addition to the 18 Lyndhurst fellows, the 1986-87 study included 21 students from a more traditional program. Data were obtained from the subjects via the reading subtest of the PPST, the communication skills subtest of the NTE, grade point averages, and undergraduate major/certification information. Data analyzed via Mann-Whitney tests, stepwise multiple regression analyses, and Spearman correlation coefficients indicated few significant differences across groups. (TJH)

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A Comparison of Reading Scores With Other Academic Measures Among Students in Two Post-Baccalaureate Teacher Preparation Programs: A Research Study

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A Comparison of Reading Scores with Other Academic Measures Among Students in Two Post-Baccalaureate Teacher Preparation Programs: A Research Study

Introduction

Teacher preparation institutions have been under attack for the past two decades to improve the quality of their programs. Many have been censured for their lack of relevancy (Allen, 1976; Fuller & Brown, 1975; Gage, 1972; Wasserman, 1974), for poor evaluation measures (Bohning, 1978; Sanders, 1974; Silberman, 1970), and for their overall program ineffectiveness (Bausell & Moody, 1973; Medley, 1973; Pedersen & Fleming, 1979).

It is not surprising, then, that one of the chief battle cries of educational reformers has been to raise the standards of those preparing to teach and for those entering the teaching profession. A review of the most popular initiatives being undertaken by some states reveals the following commonalities: (1) testing teacher education candidates and graduates; (2) preparing teachers via an alternative certification route; (3) instituting scholarship and/or "loan-forgiveness programs" as incentives to attract would-be teachers in fields experiencing teacher shortages; and, (4) merit pay/master teacher/career ladder plans.

Two tests which are commonly used to screen potential teacher preparation students and to measure their level of achievement at the conclusion of the teacher preparation program are the Pre-Professional Skills Test (PPST) and the National Teachers Examination (NTE). The PPST includes subtests for reading, mathematics, and writing. The NTE core battery includes subtests in communication skills, general knowledge, and professional knowledge. In addition, there are specialty tests for specific teaching content areas available with the NTE.

The NTE and other state or locally developed tests are required by a minimum of 42% of teacher preparation institutions for certification (Ishler, 1984). The state of Tennessee requires all subtests on the PPST, attainment of specified levels of performance on the three core battery subtests of the NTE, the specialty area subtest in some areas, and grade point average for teacher certification. At the University of Tennessee, the PPST is usually taken just prior to admission to teacher admission. For undergraduates this ordinarily occurs during the sophomore year. For students who make the decision to become teachers late in their college programs or even after graduation, the PPST is taken at that time. The NTE is taken upon completion of the teacher preparation program.

While it has become an accepted practice to require written entry- and exit-level tests, there has been little research to show their relationship to actual teaching ability (Piper & O'Sullivan, 1981). Another concern is the relationship of test scores to performance in the academic teacher preparation program. A screening measure is not a valid one if it does not serve to identify students who will be successful in the academic program. If the performance on the exit-level measure is inconsistent with academic performance, the program would apparently not be preparing students for the objectives measured by the exit measure.

Both the PPST and the NTE contain a measure of reading ability (the PPST reading subtest and the NTE communication skills subtest), although the two measures may differ somewhat in scope. The focus of this study was the comparison of the performance of two groups of graduate teacher-education students on the reading measures and on measures of academic achievement. The two groups under study were postbaccalaureates in the traditional teacher

preparation program and those in a funded, innovative, selective program for Liberal Arts graduates called the Lyndhurst program.

UTK Lyndhurst Program Description

During the late summer and early fall of 1984, College of Education Dean Richard Wisniewski (University of Tennessee, Knoxville) and Robert Saunders (Memphis State University) met with the Tennessee Commissioner of Education, Robert McElrath, to develop a proposal for an alternate teacher preparation program. The proposal was submitted to the Lyndhurst Foundation (a philanthropic organization in Chattanooga, Tennessee), and ultimately funded in December of 1984. The plan called for designing and implementing three one-year teacher preparation programs which would attract academically talented liberal arts graduates (many of whom wanted to make mid-career changes) who desired to become secondary teachers.

Upon being selected, Lyndhurst Fellows participate in an intensive summer academic program, which is followed by a year-long internship in a public school. During the internship the Fellow assumes full responsibility for three classes as well as extra-curricular activities. Additional course-work and seminars taken during the year complete the program. A teacher in the school is designated as a public school mentor and is given a released period in which to provide guidance and leadership to the Fellow. In addition, a faculty member from the College of Education and one from the student's major content area also serve as mentors and provide assistance on a periodic basis. Unique features of this alternate route to certification include its curricular framework, the tri-dimensional mentoring component, the partnership with participating school districts, the close liaison with the College of Liberal Arts, and the year-long internship culminating in secondary certification and credit for the first year of teaching on Tennessee's Career

Ladder, the probationary year (Wiley, 1986). Previous research has shown that both postbaccalaureates and Lyndhurst fellows scored significantly higher on the NTE than undergraduates in the traditional teacher preparation program (Boser & Wiley, 1986).

One focus for alternative programs has been on strengthening the preparation in the subject matter area in which the student is planning to teach, which can mean expanding the duration of the teacher preparation program and extending it into graduate study. The PPST and the NTE are required, thus it is important to know whether or not they are valuable in screening and are related to program content. The reading tests, in particular, are the focus for this study. Research questions to be answered included the following: Is there a difference between reading comprehension scores as measured by the NTE and the PPST? Does academic preparation in particular subject areas positively enhance reading comprehension? Are undergraduate and graduate grade point averages predictors of (silent) reading ability?

Method

Subjects

Subjects for this study were the 18 Lyndhurst participants in 1986-87 and 21 liberal arts graduates who completed initial teaching certification requirements through the College of Education in 1986-87 as postbaccalaureates. The Lyndhurst program was designed for persons obtaining certification in secondary teaching areas (business, English, foreign language, mathematics, psychology, science, or social studies). The liberal arts majors selected for comparison with the Lyndhurst participants and for this study included the total number of postbaccalaureates meeting criteria consistent with Lyndhurst program requirements (secondary emphasis, initial certification, program completion in 1986-87, liberal arts graduate), while the 18 Lyndhurst partic-

ipants were all those who successfully completed the program in 1986-87. The college certification office provided assistance in screening postbaccalaureates by determining those who had applied for initial certification during the specified time period. It was originally planned to use data from comparable groups from the previous year (1985-86) to enlarge the groups. The PPST reading subtest was not required for students in 1985-86, however, so an essential piece of information was not available and the decision was made to limit the study to students of 1986-87.

Average age of the subjects was 31.0 years (Lyndhurst, 32.3, postbaccalaureate 29.9). Over half (59%) were female (Lyndhurst 72%, postbaccalaureate 48%), and 46% had already obtained one or more advanced degrees (Lyndhurst 44%, postbaccalaureate 48%).

Source of data

All data were obtained from official records. Variables of interest included the percentile scores on the reading subtest of the (PPST) and the communication skills subtest of the (NTE); grade point averages (GPA) in professional education courses, graduate and undergraduate studies; undergraduate major/certification area, and group (Lyndhurst or postbaccalaureate).

Analysis

The performance of Lyndhurst participants and postbaccalaureates on the PPST and the NTE were compared by the use of Mann-Whitney tests because the scores were reported as percentiles. College major/certification area groups were rank ordered on the basis of mean percentile scores on the PPST and the NTE, but no statistical tests were performed because of the low frequencies in some areas and the lack of a logical method of collapsing categories.

Stepwise multiple regression analyses were conducted to determine whether undergraduate and/or graduate GPA could be used to effectively predict

performance on the PPST and NTE. Finally, Spearman correlation coefficients were computed to determine the extent of the relationships between: 1. the PPST and the NTE, and 2. the reading measures and professional education, undergraduate, and graduate grade point averages. In view of the number of statistical tests proposed, a probability level of .01 was used to determine significance.

Results

The Mann-Whitney tests showed no significant difference between groups (Lyndhurst and postbaccalaureates) on the PPST ($z=-2.2322$, $p=.0256$) or on the NTE ($z=-2.8043$, $p=.0450$). Examination of the means and medians for the two groups showed the Lyndhurst group performing at substantially higher levels on both subtests, although the differences were not statistically significant (see Table 1).

Table 1

Performance on NTE and PPST Subtests by Group

			Percentile	
Test	Group	n	mean	median
PPST Reading	L	18	76.28	80
	PB	21	58.76	60
NTE Communication	L	18	81.61	84
	PB	21	66.81	65

Comparison of the rank orders of the certification area groups on the PPST and the NTE revealed that the lone business education major and the science majors scored highest on both tests (see Table 2). Although there

were only one special education and one psychology major, they scored lowest on both tests. The only differences in rankings were that the English and mathematics majors scored higher than the social studies and foreign language majors on the PPST but lower on the NTE.

Table 2

Performance on NTE and PPST by College Major

		PPST Reading		NTE Communication	
Major	n	mean percentile	rank	mean percentile	rank
Business	1	88	1	88	1
Science	15	74	2	78	2
English	6	70	3	74	5
Mathematics	6	62	4	69.6	6
Social Studies	6	60	5.5	76.5	3
Foreign Language	3	60	5.5	74.3	4
Special Education	1	39	7	37	7
Psychology	1	16	8	32	8

The results of stepwise multiple regression analyses were that undergraduate grade point average significantly predicted the PPST reading scores ($p=.0024$), accounting for 22.8% of the variance, and the NTE communication scores ($p=.0051$), accounting for 19.8% of the variance. Graduate grade point average did not sufficiently improve prediction to warrant its inclusion in either analysis.

Spearman rank-order correlation coefficients showed that the PPST and the NTE were highly correlated (see Table 3). Both the PPST and the NTE were also highly correlated with the PPST writing subtest. They were also fairly strongly correlated with GPAs in professional education courses, graduate and undergraduate studies.

Table 3

Spearman Correlations Between PPST, NTE, and Other Academic Indicators

	PPST Reading	NTE Communication
PPST Reading		.80*
PPST Writing	.73*	.71*
Professional Education GPA	.55*	.65*
Graduate GPA	.48*	.47*
Undergraduate GPA	.47*	.46%

*$p < .01$

Discussion

In attempting to generalize these results, caution must be used because of the relatively small number of subjects for whom data were available, particularly when discussing performance by certification area. Generalizing these results should be limited or done with care, since the sample size, even with both groups combined, was small.

It must also be recognized that while the PPST reading subtest and the NTE communication skills subtest are highly correlated, they are not

necessarily intended to yield measures of the same abilities. It must be emphasized that the NTE communication skills subtest has wider scope than the NTE reading subtest, and that the tests are not necessarily measuring the same abilities to the same extent, therefore differences in rankings could be attributed to differences in the tests rather than differential impact of the teacher-preparation program.

Both groups scored at relatively high levels on both the PPST and NTE. The competitive selection process for the Lyndhurst program insured high levels of past performance, which may account for their scoring higher than the postbaccalaureates. Whether the same results would be obtained with individuals scoring at average or below-average levels on the PPST cannot be determined in this study.

The relationships of entry-level test performance on the PPST to subsequent grade point average and exit-level test performance are, of necessity, partially a function of the teacher preparation program which the student experiences in the intervening time period. Whether skills improve or deteriorate are dependent upon the program as well as on the skills and abilities brought into the program by the student.

The PPST reading subtest is now required for all individuals entering the teacher education program. Validation for its use in undergraduate teacher education programs is evident in its power to predict undergraduate grade point average. Reading skills, as measured by the PPST, were shown to be positively and significantly correlated with writing skills, exit-level communication skills, and GPA in graduate studies and teacher preparation coursework as well for postbaccalaureate students. While it appears reasonable that reading level would be related to academic performance, it is reassuring to know that there is support for such claims.

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